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- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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siehe unsere Liefer- und Versandbedingungen

Zuschläge

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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Nordic MUbio

Mouse anti actin alpha-cardiac

Catalogue number: **MUB0109P**

Clone	22D3
Isotype	IgG1
Product Type	Primary Antibodies
Units	0.1 mg
Host	Mouse
Species reactivity	Goat Human Rabbit Rat Swine Zebrafish
Application	ELISA Immunoblotting Immunohistochemistry (frozen)

Distributors

For Purchasing Information, please contact your local distributor

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Background

Among the six actin isoforms described in mammals, two are found in virtually all cells (β- and γ-cytoplasmic), two are detected in smooth muscle cells (α- and γ-smooth muscle) and two are present in striated muscles, one predominantly in skeletal (α-skeletal) and one in cardiac (α-cardiac) muscle cells. These actin isoforms differ slightly in their N-terminus, but the sequence of each of these actins is highly conserved in higher vertebRates. Cardiac α-actin, which is the main actin isoform in the adult heart, has also been shown to be the predominant form in early muscle development. In later development the expression of α-cardiac actin is down regulated and α-skeletal actin becomes the dominant isoform in the adult skeletal muscle.

Source

22D3 is a Mouse monoclonal IgG1 antibody derived by fusion of NS0 Mouse myeloma cells with spleen cells from a BALB/c Mouse immunized with a peptide comprising the N-terminal nonapeptide of α-cardiac actin with an acetylated N-terminus (Ac-DDEETTALVC-COOH)

Figure 1 Paraffin section of human cardiac muscle immunostained with 22D3 1 500

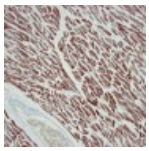


Figure 2 Immunofluorescence staining of muscle tissue in the tail of 3 days old zebrafish embryo

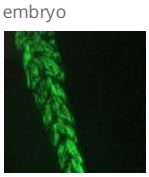


Figure 3 Immunofluorescence staining of developing myocardium in 1

coupled to keyhole limpet hemocyanin through the cysteine residue.

Product
Each vial contains 100 ul 1 mg/ml purified monoclonal antibody in PBS containing 0.09% sodium azide.

Applications
22D3 is useful for immunohistochemistry on frozen and paraffin-embedded tissues, immunoblotting and ELISA. Optimal antibody dilutions should be determined by titration; recommended range is 1:100 – 1:1000 for immunohistochemistry with avidin-biotinylated Horseradish peroxidase complex (ABC) as detection reagent, and 1:1000 – 1:5000 for immunoblotting applications.

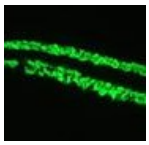
Cross Reactivity
The epitope recognized by α-SM1 is highly conserved. The antibody therefore cross-reacts with many species including protochordates, lower craniates and mammals.

Specificity
Clone 22D3 is an antibody highly specific for a-cardiac actin, and does not cross react with other actin isoforms.

Storage
Store at 4°C, or in small aliquots at -20°C.

References
1. Vandekerckhove, J. and Weber, K. (1978). At least six different actins are expressed in a higher mammal: an analysis based on the amino acid sequence of the amino-terminal tryptic peptide. J Mol Biol. 126(4), 783-802.
2. Vandekerckhove, J., Bugaisky, G. and Buckingham, M. (1986). Simultaneous expression of skeletal muscle and heart actin proteins in various striated muscle tissues and cells. J Biol Chem. 261(4),1838-43.
3. Suurmeijer, A.J., Clément, S., Francesconi, A., Bocchi, L., Angelini, A., Van Veldhuisen, D.J., Spagnoli, L.G., Gabbiani, G. and Orlandi, A. (2003). Alpha-actin isoform distribution in normal and failing Human heart: a morphological, morphometric, and biochemical study. J Pathol. 199(3), 387-97.
4. Chaponnier, C. and Gabbiani, G. (2004). Pathological situations characterized by altered actin isoform expression. J Pathol. 204(4), 386-95.
5. Driesen, R.B., Verheyen F.K., Debie, W., Blaauw, E., Babiker, F.A., Cornelussen, R.N., Ausma, J., Lenders, M.H., Borgers, M., Chaponnier, C. and Ramaekers, F.C. (2009). Re-expression of alpha skeletal actin as a marker for dedifferentiation in

month old zebrafish embryo



cardiac pathologies. J Cell Mol Med 13(5), 896-908.

Caution

This product is intended FOR RESEARCH USE ONLY, and FOR TESTS IN VITRO, not for use in diagnostic or therapeutic procedures involving humans or animals. This product contains sodium azide. To prevent formation of toxic vapors, do not mix with strong acidic solutions. To prevent formation of potentially explosive metallic azides in metal plumbing, always wash into drain with copious quantities of water. This datasheet is as accurate as reasonably achievable, but Nordic-MUbio accepts no liability for any inaccuracies or omissions in this information.